

Article

The Cambridge Experiment

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Abstract: Since the latter part of 19th century photography has played a central role in the development of architecture for its persuasive visual impact. But, despite this clear interaction, there is still reluctance from scholars in accepting less rigid approaches to the two disciplines. Indeed, the combination of the subjects, with the necessary rigour, can open up new and effective horizons for architectural history, with a potential influence on the perceived reality: this could gradually establish attention towards less known heritage. In the case we present here, by means of a provocative exhibition on Cambridge's buildings after the Second World War, we have used photography to re-evaluate modern architecture. *Cambridge in Concrete. Images from the RIBA British Architectural Library Photographs Collection*, was held on the occasion of the University of Cambridge Department of Architecture's Centenary (1912-2012). The cues for our task were contained in the collections of the Royal Institute of British Architects: the photographic archive is the world's biggest holding of architectural images which, since 2012, has been renamed in honour of Robert Elwall (1953-2012), first curator of the collection. As part of the exhibition we published a limited edition catalogue; we have here revisited, combined and enlarged our original essays.

Keywords: architectural photography; architecture; Cambridge; concrete; Leslie Martin

1. Damnatio memoriae

Since the latter part of 19th century photography has played a central role in the development of architecture for its persuasive visual impact. But, despite this clear interaction, there is still reluctance from scholars in accepting less rigid approaches to the two disciplines. Indeed, the combination of the subjects, with the necessary rigour, can open up new and effective horizons for architectural history, with a potential influence on the perceived reality: this could gradually establish attention towards less known heritage. In the case we present here, by means of a provocative exhibition on Cambridge's buildings after the Second World War, we have used photography to re-evaluate modern architecture. *Cambridge in Concrete. Images from the RIBA British Architectural Library Photographs Collection*, was held on the occasion of the University of Cambridge Department of Architecture's Centenary (1912-2012). The cues for our task were contained in the collections of the Royal Institute of British Architects: the photographic archive is the world's biggest holding of architectural images which, since 2012, has been renamed in honour of Robert Elwall (1953-2012), first curator of the collection. As part of the exhibition we published a limited edition catalogue¹.

We have here revisited, combined and enlarged our original essays (Iuliano, 2012: 7-11; Penz, 2012: 37-43). The present paper, therefore, is the development and product of our common understanding on the subject.

A number of specialist articles and essays on modern architecture in Cambridge have been published before and after our exhibition and we have to review here some of the most relevant. The pioneering book on the subject is, no doubt, *Cambridge New Architecture* written by an architectural student, Nicholas Taylor. It was first printed exactly fifty years ago, then re-published in 1965, 1970 and 1972 (Taylor, 1964; Taylor 1965; Taylor and Booth, 1970; Taylor and Booth, 1972).

More recently the attention of scholars has been focussed on single, representative acts of architecture in Cambridge: it is worth recalling the analysis of the competition for the scheme of Churchill College, published in the two editions of *Corbusier comes to Cambridge* (Goldie, 2007; Goldie, 2012), and an article on Basil Spence's Erasmus Building (Campbell, 2011: 383-405). An issue of the *Twentieth Century Society* has been devoted to some modern architecture examples in Oxford and Cambridge (Harwood, Powers and Saumarez-Smith, 2013).

Before starting the analysis, it is important to reflect on the fact that memory is directly related to the present: indeed, since our perception of the past is always influenced by the current time, the interpretation of what constitutes a precedent is always changing and, consequently, how we conceive these images is also an ever-evolving concept. This has an important bearing on how we may interpret these photographs now, as opposed to how they were received in the 1960s. The photographs and, therefore, the buildings, are analysed to explain how, today, through the image of architecture, we can instigate reassessment of the recent past.

Cambridge in Concrete showed sixteen representative architectures that appeared in the British university town between the late 50s and the early 70s². It was held in one of the first exemplars of this

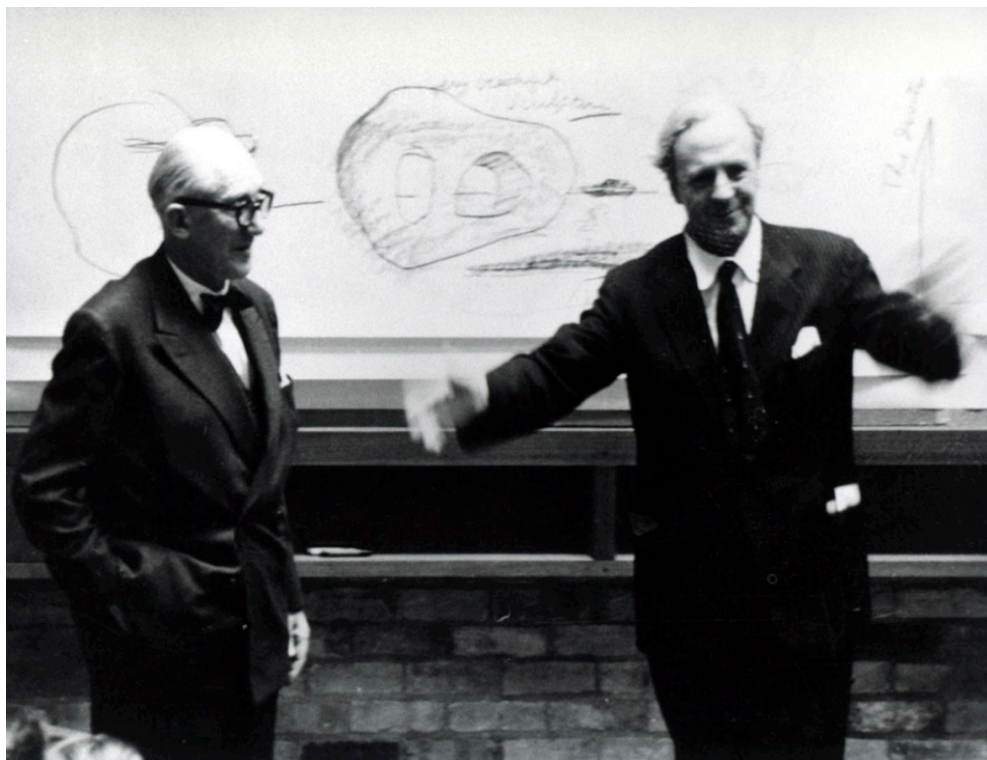
¹ The exhibition with the related catalogue and the present paper are the outcome of discussions on the topic with Deborah Howard, Alan Berman, Nick Bullock, Peter Carolin, Dean Hawkes and Nicholas Ray. This research was in part made possible through a Marie Curie Research Fellowship of the European Commission, 7th Framework Programme.

² These are the sixteen buildings selected in the exhibition and in the catalogue (in chronological order): Department of Architecture Extension; Erasmus Building, Queens' College; The Raised Faculty Building; Harvey Court, Gonville and

kind, the extension of the Department of Architecture designed by Colin St John ‘Sandy’ Wilson and inaugurated by Le Corbusier and Henry Moore on the 11th June 1959 (Figure 1). ‘Les intentions sont claires’ (‘The intentions are clear’) was Le Corbusier’s judgement on the building, pronounced on his way towards the lecture room where the entire school attended the first ever event in the new addition (Carolin, 2012b: 46). The modern buildings selected in the exhibition, as well as those not included - such as David Robert’s and Geoffrey Clarke’s North Court addition to Jesus College - do not form part of the identity of Cambridge today. Cambridge as a city, as a University, is commonly linked to a more reassuring model in the English tradition, compressed between the noble stereotype of King’s chapel and the view from the Backs - referring to the backs of the colleges: Arcadian visions, which communicate calm in the name of the arts and scholarly pursuits.

In our view, beyond any aesthetic evaluation, this heritage represents the challenging spirit of an advanced academic environment in the 50s and 60s. College and university architectures, through the impact of their shapes and the unconventional use of materials, perfectly embody the utopia of a progressive society. It was innovation interrupted after a long period of hope (Bullock, 2012: 25-29); indeed, although in the last forty years many new buildings have been erected, none have the evocative tension of these imaginative buildings, which are undergoing a *damnatio memoriae*, a sort of suppression of memory.

Figure 1. Le Corbusier and Leslie Martin at the inauguration of Colin St John Wilson’s Department of Architecture Extension; photography: Richard Einzig, 1959. Original print, Department of Architecture, University of Cambridge.



Caius College; Fitzwilliam College; George Thomson Building, Corpus Christi College; Churchill College; New Hall; The Cripps Building, St John’s College; The Keynes Building, King’s College; University Centre, Granta Place; History Faculty; Housing, Claire Hall College; Boulton House, Trinity Hall; Darwin College; New Court, Christ’s College. The photographs shown in the exhibition are on permanent display in the entrance hall of the Department of Architecture at Scroope Terrace, University of Cambridge.

We should also clarify that the buildings that are the focus of the present study do not display unity in terms of style and do not convey an identifiable architectural language generated by a hypothetical ‘Cambridge School influence’. There was, instead, a wide vision for modernisation of the built environment in Cambridge, promoted by Sir Leslie Martin, who became Head of the School of Architecture from 1956 until 1972 after his resignation as deputy leader of the London County Council Architect’s Department. He was a central figure for the parabola of the modern Cambridge, recruiting new lecturers in the School, like Sandy Wilson and Colin Rowe, later followed by Peter Eisenman, and visiting teachers such as James Stirling. Martin achieved his ‘modern programme’ by sitting on influential committees for the selection of the firms to design the university buildings, with the consequential appointment of the most avant-garde British architects in University town.

During his tenure in Cambridge he contributed to the new skyline of the city with a number of buildings, amongst others: two new college accommodations, Harvey Court, completed in 1962 with Patrick Hodgkinson and Sandy Wilson; the William Stone Building at Peterhouse College, completed in 1964 with Sandy Wilson; and the Kettle’s Yard Gallery extension in 1970, designed with David Owers (Carolin, 2012a: 19-23; Martin, 1983: 28-35; 39; 162-167; Sharr and Thornton, 2013: 166-170).

Figure 2. Leslie Martin with Patrick Hodgkinson and Colin St John Wilson, Harvey Court; photography: John Donat, 1962. RIBA Library Photographs Collection, RIBA59259.



Harvey Court, the project for Gonville and Caius College, clearly embeds Martin's previous research and reflections on the collegiate plan, which were first published by the *Architectural Review* in July 1959 as he later recalls in *Buildings and Ideas 1933-83*, the book published as a summary of his practice (Martin, 1959: 42-48; Martin, 1983: 20-21).

In July 1959 the Architectural Review published an essay called 'The Collegiate Plan' [...]. The essay made the point that this idea [of the court] is fundamentally built up around the fit between a community and an architectural organisation. We had observed that in Cambridge from the thirteenth century on, the enclosing wall of buildings around a private space has identified the collegiate community. Courts of varying sizes added to each other have given a reasonable consistency and order to the buildings for the college society. The form of the court has persisted although the architectural style has changed. The built form (the court) embodies a pattern of use. The individual is identified by the room; the clusters of rooms around each staircase; and the community, by the enclosed form of the court itself. Additional courts of varying sizes allow the community to grow and create the generic pattern.

Even if Martin was quite clear in his explanation of the continuity between past and present at Cambridge, there were criticisms of the modern architectural language. A relatively recent example came from the influential historian David Watkin (Watkin, 2000: 43).

*All these I have had to watch erected, repaired, and constantly held up as models to young architects. Why were not the existing historic colleges held up as models where the wisdom of centuries provided an environment in which each college was a miniature city with courts and archways, residences for different classes and ages of people, public and private gardens, a chapel and a central hall? I wonder if you would care to guess the function of the interior shown of the School of Architecture built in 1959 from designs by Colin St John Wilson? It is the lecturers' common room; so far as I know, it has never been used for that purpose, or any other; a real seventeenth century common room is in St John's College. Lady Mitchell Hall is a formless lecture room of the 1950s by Casson and Conder compared with that by Quinlan Terry at Downing, the elegant Howard Building of 1985-89. As I have said in the title of my paper, this is a personal view so that I should explain the reasons which led to my analysing and publishing my views on modern architecture which I first did in my book, *Morality and Architecture* in 1977. The reasons are, first, that I was trained as an art historian in a History of Art Department which happened to be attached to a School of Architecture that happened to be in an historic city, Cambridge, which was being daily violated by unsympathetic buildings of the kind I have been speaking. These did deliberate violence to the visual and social patterns that had given the city and the university its particular character over the centuries. I discovered that not only were the buildings hostile but the language which was used to promote them was deeply flawed.*

By a further accident my tutor as a research student was Nikolaus Pevsner who, whatever his merits as an historian, was the most powerful propagandist in England of the doctrine of modernism. From studying his writings and those of writers such as Giedion and Corbusier, I wrote my book, Morality and Architecture. In this I tried to expose and demolish the assumptions rooted in nineteenth-century Hegelian determinism that each age had a spirit of which was part of an unfolding development and progress of which architecture was one of the necessary expressions³.

As we noted earlier, Colin Rowe was one of the excellent minds catalysed by Leslie Martin and he foresaw, at a very early stage, in the late 50s, the criticism faced by the Modern Movement within the traditional environment. He was very critical of the reception given to the new architecture in the University. In *The Cambridge Review* of 8th October 1960 he wrote a memorable article entitled 'Sidgwick Avenue'. As he later recalls in *As I was Saying* (1996), the article was the last piece that he wrote for English consumption: the task, as he saw it, was to plug-in 'an academic community with absolutely no visual sense to the iconographical realities of architecture'. But, he says, 'patently it failed, just as, at that date, it would have failed in Oxford' (Rowe, 1996: 185).

The Sidgwick site is an area close to Cambridge city centre and to the Backs, where in the 1950s Hugh Casson and Neville Conder proposed a master plan for the new Cambridge University Campus (Fair, 2013: 105-123). The reason for Rowe's article was the fact that the University committee had rejected Casson's first project for Lady Mitchell Hall on the site. Even though, later, a revised design was approved, Rowe understood that 'except minor alterations in detail, the Cambridge image was presumed to be fixed' with 'Georgian Terraces, Palladian houses on the other side of lakes and in anonymous office buildings which, so it may inhabit them with the good conscience of neutrality, it has allowed speculators to erect'. He makes his reasoning clearer (Rowe, 1960: 2-5):

There are many reasons why persons will unite together to appraise or condemn a work of architecture; and of these, its capacity or incapacity to service definite physical requirements, its merits or demerits as a formal configuration, though invariably paraded and eminently cogent, are likely to be among the least influential. For, whatever practical or aesthetic virtues we think we apprehend in the building, which occupies our attention, our discernment is prone to be directed by considerations quite extraneous to its use or shape. A building insinuates a subliminal argument. We are always swayed – generally more than we know – by a connotational significance. Our responses, favourable or not, are extensively conditioned by the degree to which the building may serve as a species of icon for the excitation of those cultural phantasies upon which we place high premia. [...] An academic Ville Radieuse, a most portentous symbol of the twentieth century, has been successfully hidden. It is screened: first from Queen's Road by its site, second by Sidgwick Avenue from its wall; and, since it gestures to itself in isolation which is less splendid than complete, we will decipher a debate, a victory, an uncertainty, a frustration, and a decision - that ostentatious celebrations should not be indulged.

³ Colin St John Wilson's common room - known as 'the pit' - was briefly used as a staff room, but gradually taken over as criticism space.

Figure 3-4. Hugh Casson, Neville Conder & Partners, The Raised Faculty Building; photography: Henk Snoek, 1961. RIBA Library Photographs Collection, RIBA61563, RIBA 61566.



Rowe's insightful anticipation did not affect Sir Nikolaus Pevsner, evoked by Watkin as the advocate of the Modern Movement in Cambridge. Pevsner's knowledge of these architectures owes a clear debt to the previously cited, small but comprehensive, *Cambridge New Architecture*. All the post-war buildings to date, as well as some previous ones - like the un-built project for Christ's College by Walter Gropius in 1937 - were included in this publication that had Pevsner's imprimatur. He wrote the introduction of the book explaining that at the time Cambridge was 'in the middle of tremendous activity which no-one can call reactionary, nor indeed conventional' (Taylor, 1964: 8). In the third, enlarged edition of the *Cambridge New Architecture* (appeared in 1970), Pevsner made public his debt to the book, adding some interesting additional comments on recent buildings (Taylor and Booth, 1970: 7).

What in 1964 I wrote to accompany the first edition of this admirable book can stand. Some of the buildings being erected now or having just been completed, in fact bear out what I then put forward, the concrete savagery of the Zoology Laboratories and the anti-architecture of the History Faculty, but there are a few others now which use this forceful and assertive style of today with mastery and without brandishing cudgels. Cripps Building is among the most perfect of the last quinquennium anywhere in England, the University Centre, though it operates with the motifs at the moment in fashion - excessive canting and chamfering, and raw concrete - does so with full maturity, the chapel of Churchill College has a serenity inside not before aimed by its architect, and the intricate interaction of Cats and Kings only reaching the surface in two places, is a test of what can be done on a squeezed site in a collegiate manner. These are judgments, and they do not always coincide with those to follow in the pages of this book. So once again, a user may find it more profitable to listen to the young than to the old. They are, as they analyse building after building, well worth listening to, and in the preparation of the second edition of my own Cambridgeshire in 'The Buildings of England', I had to lean heavily on their descriptions.

Another book strictly related to the frenetic activity at that time in Cambridge is Reyner Banham's *The New Brutalism*: it appeared as an essay in the *Architectural Review* in 1955 and as a book in 1966 (Banham 1955: 354-361; Banham 1966). The essay is rather more relevant than the book - despite the fact that the Cambridge examples feature more in the latter with, in particular, detailed descriptions of the Department of Architecture extension, Harvey Court and Churchill College. In Banham's 1955 article, what is highly innovative, and is to a certain extent linked to our own efforts, is the fact that it strictly relates the concept of the building to the image - not necessarily a photograph, but a wider idea. Every great architecture 'has been conceptual, has been image-making', he says:

Nevertheless this concept of Image is common to all aspects of The New Brutalism in England, but the manner in which it works out in architectural practice has some surprising twists to it. Basically, it requires that the building should be an immediately apprehensible visual entity, and that the form grasped by the eye should be confirmed by the experience of the building in use.

Figure 5. Howell Killick Partridge & Amis, University Centre, Granta Place; photography: Eric de Maré, 1967. RIBA Library Photographs Collection, RIBA56556.



The New Brutalism essay and book were to have an extraordinary notoriety, but modern Cambridge did not enjoy the same acclaim. The high level of experimentation in the conception of space, in the use of materials and shapes made, from the very beginning, these buildings fragile and vulnerable, exposing them to a prejudice beyond their functional and aesthetic value.

This vulnerability is exemplified by the well-known History Faculty by James Stirling, completed in 1968 on the Sigdwick site: the building came close to demolition in 1985 (Berman, 2010: 68-73). In a collection of essays evocatively entitled *Architecture and its Ethical Dilemmas*, Nicholas Ray recalls the negative attitude of the local general public towards this new architecture while by contrast foreign visitors much admired it, first on the printed page and later in person (Ray, 2005: 23, 31).

In 1985 I was asked to review James Stirling's recently published Buildings and Projects, where the History Faculty building was illustrated in all its pristine splendour. The building was widely admired by architects, but not generally by its users: just at the same time the University was debating whether to demolish the twenty-year old building because of its technical failings. Every architect in Cambridge was particularly aware of its problems because it was a favourite topic of conversation at collegiate High Tables, and looked set to remain so for many years to come, if the retentive memory of dons was to continue to the same degree as I had already experienced [...]. Stirling's purpose was

visually dramatic, especially when seen through the lens of Richard Einzig, the favourite photographer of architectural journals at the time. It was his images, of the Leicester Engineering Building and of the Cambridge History Faculty, that travelled the world and helped to fashion Stirling's international reputation. Many foreign architects pilgrimaged to the Sidgwick site to see the building, photographed it themselves and returned to Germany, Chile or Japan in order to imitate its crystalline qualities in their own designs.

As the reputation of the History Faculty grew way beyond Cambridge, we can conclude this reflection on the suppression of memory of the avant-garde architecture with Peter Smithson. In 1976 he wrote an article about Cambridge promenades in *Architectural Design*, lavishly illustrated by documentary photographs and a map (Smithson, 1976: 346-354). The paper is a romantic, detailed analysis of the urban fabric: he basically divided the visits into three walks and accompanied the text with an Ordnance Survey map on which he pencilled 113 buildings. This was one indication of Smithson's interest in historic urban structure. Besides Cambridge, he notably created maps of walks for Bath and Oxford - published in *Architectural Design*, October 1969 and June 1976 respectively. But strikingly, Peter Smithson, perhaps the most important architect of the New Brutalism, a central character of innovative exhibitions like *Parallel of Life and Art* (1953) and *This is Tomorrow* (1956), completely omitted any contemporary building in his descriptions; ratifying, for an unknown reason, the exclusion of the Modern Movement from Cambridge.

2. Architectural Images of Cambridge: analysis and role

Often commissioned to professional photographers by architectural journals, the visual campaigns for Cambridge vigorously amplify the efforts for the Modern generated by the intellectual energy of Leslie Martin. Every photographer had his own approach to depicting architecture and it is not possible in the space of this article to discuss this aspect in detail. The same images are repeated several times in Banham's and Taylor's previously cited books, as well as in the *Architectural Review* and the *Architects' Journal*. Robert Elwall has written extensively on architectural photography and his book, *Building a better Tomorrow. Architecture in Britain in the 1950s* (2000), provides a clear contextualization of the Cambridge corpus of images. Even if it is not within the scope of this article to analyse the technical aspects for the production of the photographs at the time, to complement Elwall's analysis we can mention one of the leading British architect-photographers at the time, Eric de Maré - former editor of the *Architects' Journal* in the 1940s and one of the most prolific photographers for the *Architectural Review* - who wrote in 1961 a detailed book on architectural photography. Eric de Maré had also a very clear position on the less than fully exploited potential between the disciplines: 'Modern architecture gives much scope for creative photography, though perhaps less than it should. The times do not encourage great architecture'. He dedicated the entire part two of his written speculation to the techniques at the time, which gives an insight into the photographic realm, listing eight different camera types at the time, from the 'Box' to the 'Sub-Miniature' and recalling his own equipment: a Rolleiflex, a Linhof Super Technika and a Rolleiken, so to convert his Rollei into a 35 mm (de Maré, 1961: 45-96). He gave also suggestions for the apparatus to be used in photographing architecture (de Maré, 1961: 56).

What, then, is the best kind of camera for architectural work, using that term in its broadest sense? Undoubtedly it is the 2¼ in. by 3¼ hand-or-stand camera having interchangeable lenses and all the movements. Of course better definition can be obtained on the larger sizes, such as 4 in. by 5 in. or quarter plate, using either glass plates or cut films, but then the disadvantages of bulk and weight and the need to carry around a quantity of plate holders must be considered. Cost of materials will be higher too. Good modern lenses and the modern roll film of medium give adequate definition, which allows enlargements to be made up to any reasonable size - even up to large photo-murals.

Through the use of their equipment distinguished photographers, such as Eric de Maré, carefully staged and framed their images of Cambridge: they appear in control of just about every square centimetre of the canvas, possibly with the exception of the clouds. However hard photographers try, it is impossible for them to fully record the world around us with a photographic apparatus. Especially the real world, as opposed to a studio reconstructed set. This concept is at the heart of Antonioni's *Blow Up* (1966). In this film, the photographer, played by David Hemmings, as he successively enlarges the black and white film he shot earlier in Maryon Park, notices, on the grainy blown up prints, a body in the grass and a man with a gun in the bushes. While it might at first appears pointless to apply the *Blow Up* treatment to the Cambridge photographs, this process revealed a number of interesting facts, which threw new light on the material.

A close examination of the high-resolution photographs of the RIBA collection reveals, in particular, far more human presence than is first gathered from the photographs. With the exception of Tony Ray-Jones' images of Clare Hall where the human presence is clear (Figure 7), zooming in on the façades and examining closely the edges of the buildings, there is almost invariably a person or a group of people going about their everyday life. In Sam Lambert's Churchill photograph (Figure 8), it is a woman on the first floor, talking to a man, judging by the bald patch, by the open window. In Colin Westwood's Corpus Christi photograph (Figure 9), under the pensive eye of the Henry Moore sculpture, it is two students on the ground floor, one on each side of the frame, walking away from the camera, while in the roof top view of Henk Snoek's Cripps building, three people are gathered close to the river Cam (Figure 10). But in this respect the most arresting is another of Snoek's photograph, the Queen's Erasmus building (Figure 11), where two young men do not shy away from the camera but instead look directly at 'us' – the first one, situated behind the window on the second floor, clutches a tea mug, while a bespectacled student peers down at the camera from the edge of the roof top.

While it is expected in portrait photography to have people looking straight at the camera, in this case it is an unexpected combination because the portrait is that of the building. And by doing so it reveals the artifice of photography, as we don't expect a 'building' to look back. Unlike the other forms of inhabitation previously noted, this 'mise-en-scène' is unusual for architectural photography and is vaguely reminiscent, in a more timid version, of the 'performing modernism' photographs of the Bauhaus experiments in the 20s (Wilk, 2006). But the very fact that we had to use a magnifying glass to find traces of the human body points to a photograph purposely devoid of human activities, a tradition that carries on to this day. There are occasional debates on this subject and the most memorable one dates back to 1979 with Picton's virulent attack on the state of architectural photography: 'This is how our cities will look when the neutron missiles arrive [...] the photographs

have a necrophilic excellence' (Picton, 1979a: 176), echoing Walter Benjamin's remark on Atget's photographs of deserted streets of Paris in 1900: 'he photographed them like scenes of crimes [...] they unsettle the viewer' (Benjamin, 1936: 257-258). The debate has recently been re-ignited by Hannay: 'the common exclusion of occupants from photos and any sign of their layer of inhabitation, seriously compromises any likely proper understanding of Architecture' while adding 'as architectural publishing has considerable influence on students of the discipline, this exacerbates the problem of their learning context, which also tends to exclude the occupants from the equation' (Hannay, 2009: 3). The explanations offered by both Picton and Hannay on the subject are invariably linked to the origin of the commissioning of the photographs, usually the architectural magazines, partly driven by commercial imperatives and the fashion of the time.

John Donat, one of the photographers interviewed by Picton, was himself quite critical of his profession: 'Photography just started imitating modern art, and most of the classic modern architectural photographs are imitations of Mondrian or of abstract art or Duchamp. I mean they exclude people, they abstract reality [...] the picture is more important than the content' (Picton, 1979b: 232).

Figure 6. Denys Lasdun & Partners, Fitzwilliam College, 1964; photography: Edwin Smith. RIBA Library Photographs Collection, RIBA49170



Figure 7. Ralph Erskine, Clare Hall Housing; photography: Tony Ray-Jones, 1969. RIBA Library Photographs Collection, RIBA50196.



Along the same line Mattens, a philosopher untainted by architectural bias, asks himself the question ‘what is the purpose of the “emptiness” that so strongly characterizes architectural photography?’ (Mattens, 2011: 111-112). He advances a two-pronged answer. First he subscribes to Bruno Zevi’s belief that architects suffer from a lack of spatial education because of their methods of representation ‘(for example, floor plans, cross sections, photographs, and the like); these representations are abstractions because they show “a reality that no one ever sees”’. Following from that, Mattens posits that ‘In everyday life [...] we do not see rooms; we see dining rooms, living rooms, staircases, and so on. We see these rooms in their functional connection with the adjacent rooms, which, in turn, are also not just indeterminate spaces [...] architectural photography seeks to do the opposite. It is strongly characterized by a tendency to remove inhabitants along with any object referring to their occupations from the image it presents’. At that point Mattens proposes the following justification for the removal of human presence: ‘As significance recedes, abstract spatial compositions come to the fore. Hence, it is plausible that the initial “idea” of architectural space has been further elaborated through the way in which interior spaces have typically been depicted in photographs’.

In other words an abstraction of space emerges by removing any reference to function, usually brought about through the process of human inhabitation. Thom Andersen (*Los Angeles Plays Itself*, 2003) had already noted this tension between background (the city) and foreground (the actors) in fiction films ‘I know movies aren’t about places, they’re about stories. If we notice the location, we are not really watching the movie. It’s what’s up front that counts’. Indeed if only we could look past the action, then we would notice the places. Consequently when we look at the Cambridge images our gaze is undistracted by any form of human action and we have no choice but to feast on the taut lines of the architectural composition. In that sense they are images of abstract spaces ‘of a not-yet-social realm [...] merely a representation of space’ (Lefebvre, 1991: 190), spaces of expectation yearning for their actors. The other conundrum contained in the RIBA images, resides around the question of the aesthetics of the stark sunlit black and white images, triggering John Donat to remark ‘Why does it never rain in the *Architectural Review*?’ (Elwall, 2007: 12).

What might be the origin of this ‘house style’? In *L’image d’après* exhibition (2007) the French Cinémathèque explored ‘how cinema infiltrates the photographer’s imagination’ inspired by Antonioni’s remark on the nature of images ‘We know that underneath an image shown there is another image which is more faithful to reality, and that underneath that second image there is still another one, and then one more. Right up to that true image of that absolute and mysterious reality that nobody will ever see’ (Antonioni, 1996: 63). So what influence might we find if we peel away the various image layers? And might there be a cinematic aesthetic at play? The only obvious link resides in a potential ‘film noir contamination’ because of the stark black and white unidirectional lighting that characterised the genre. It is much in evidence for example in Einzig’s photographs of Christ’s New Court (Figure 12). The timing would have been right for its influence to be felt, as film noir thrived in the 40s and 50s and it no doubt shaped the collective imagination. In *Film noir and the spaces of modernity* (2006), Dimendberg has convincingly argued that this genre was linked to modernism and that it had been influenced by the architectural photography of László Moholy-Nagy and Alvin Landon Coburn in particular. However, he does not investigate the corollary and a direct link has yet to be established.

Figure 8. Richard Sheppard Robson and Partners, Churchill College; photography: Sam Lambert, 1966. RIBA Library Photographs Collection, RIBA19181.



So what other influence can we detect if we peer further down through the image layers? Nigel Henderson's Hunstanton School photographs for the first time showed the New Brutalist aesthetic in stark sunlit humanless environment that may well have proved a lasting influence (Johnson, 1954: 149-162; Zimmerman 2010: 203-228). It inspired Reyner Banham a year later to state: 'The definition of a New Brutalist building derived from Hunstanton and Yale Art Centre [...] must be modified so as to exclude formality as a basic quality if it is to cover future developments and should more properly read: 1, Memorability as an Image; 2, Clear exhibition of Structure; and 3, Valuation of Materials 'as found.' He then went on to add that 'an Image is what affects the emotions' (Banham, 1955: 356, 361). In that sense the pure lines of the Cambridge photographs, unmarred by human presence, achieved a desirable memorability.

The importance Banham paid to the image of the Brutalist buildings would also have played a part in shaping the portrayal of the new aesthetic, in particular through architectural magazines. But we have to clarify at this stage that some of the buildings labelled by Banham as 'Brutal' - probably to generate more impact in public opinion - are not at all Brutal. Pevsner brilliantly clarifies this aspect in one of his Radio Talks, on Saturday 3rd December 1966 (Games, 2002: 298).

Figure 9. Philip Dowson and Arup Associates, Corpus Christi College; photography: Colin Westwood, 1964. RIBA Library Photographs Collection, RIBA19177.



Brutalism has been used to mean much - too much, for the Hunstanton School with which Peter and Alison Smithson made their name and which served to launch the term is entirely unbrutal. It is symmetrical, clean, precise - in short, Mies van der Rohe and not Le Corbusier in origin - and the Smithsons' most recent and most conspicuous building, the Economist, in London, is again entirely unbrutal, a sensible and in its townscape aspects sensitive job, much less brutal for instance than, say, Richard Sheppard's Churchill College or Denys Lasdun Royal College of Physicians.

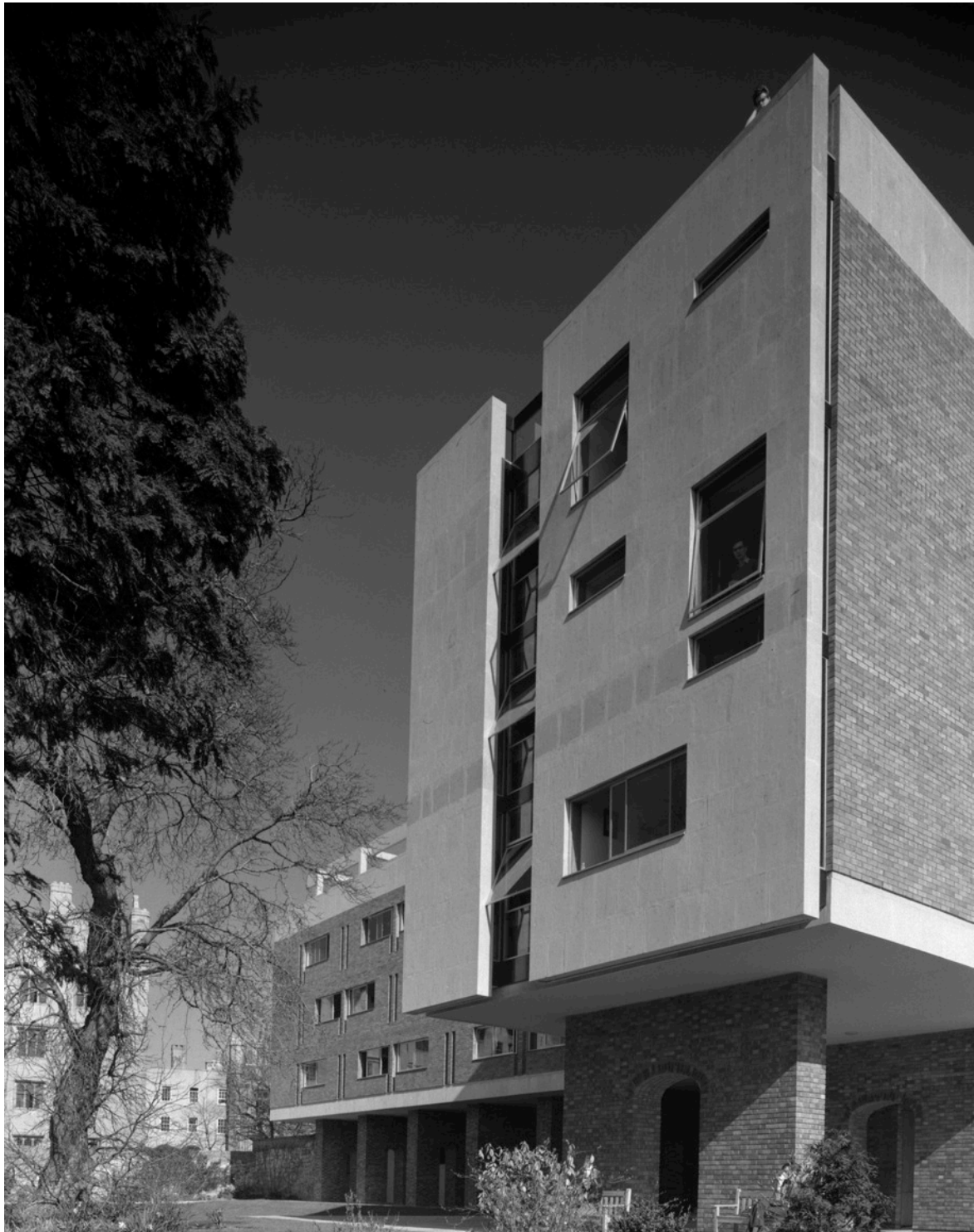
While we can admire the uncontaminated aesthetic of the Cambridge photographs, they can be complemented by other more 'messy media' to trigger our memories, and here two sets of moving image experiments come to mind. The first is a film of the construction of Churchill College (see 'Filmography'), made between 1962 and 1964 and directed by Andrew Sinclair, the first Fellow in History and future professional film-maker. If the photograph by Sam Lambert (Figure 8) catches the building as the finished product, Sinclair's film is about the process and they are highly complementary. It is a poignant reminder firstly of the extraordinary effort that had gone into the construction process and secondly that, despite its association with the ideal of a 'machine for living',

cars, boats and airplanes, the Modern Movement relied essentially on craft, as Mark Goldie remarks: ‘What comes home to the viewer is that, for all its modernist design, the construction of Churchill relied on traditional and relentless craftsmanship on site. Almost nothing was factory pre-fabricated. The project soaked up labour from miles around, and we see workmen being bussed to the site. This was, moreover, the era before electric power tools; and before ‘health and safety’; an age still of flat caps not hard hats’ (Goldie 2011). And perhaps the more ‘modern’ part of the film is the wonderful jazz sound track. The second set of moving image experiments of interest here can be found as part of the *Cinematic Mapping of Cambridge* project (Penz, 2012b), which aimed to digitise a subset of the CUMIS [Cambridge University Moving Image Studio] archive. This resource documents the various aspects of the life of the city and of the University between 1998 and 2008. Through a process of ‘cinematic mapping’, the movies are geo-referenced on a map of Cambridge, at the place where they were filmed. This ‘movie centric’ map of Cambridge is a novel way of exploring the city. Eventually, six modern buildings were represented in the CUMIS archive and were grouped under the theme of *Cambridge Movies in Concrete* as a tribute to our *Cambridge in Concrete* photography project.

Figure 10. Powell & Moya, The Cripps Building, St John’s College; photography: Henk Snoek, 1967. RIBA Library Photographs Collection, RIBA10396.



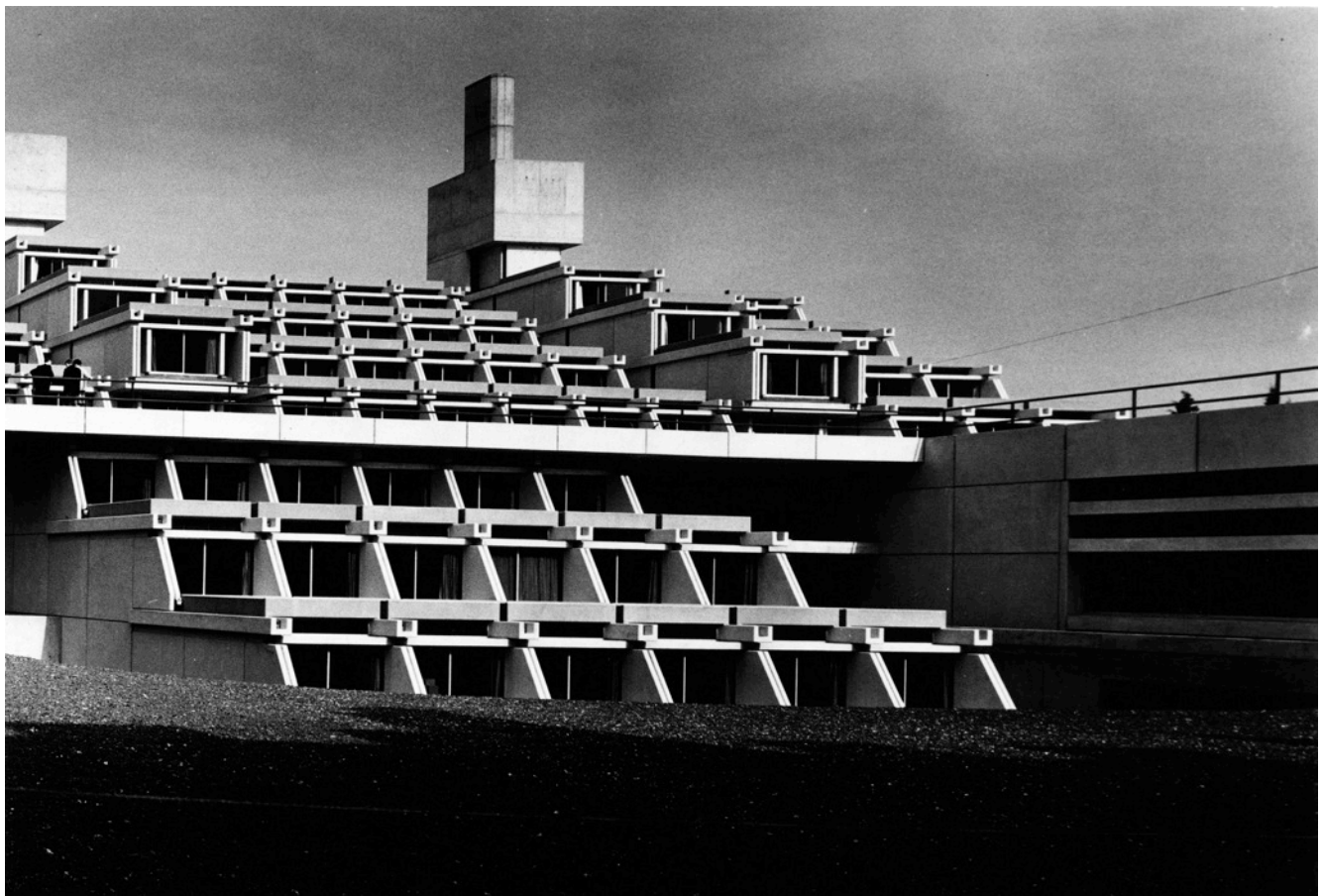
Figure 11. Basil Spence and Partners, Erasmus Building, Queen's College; photography: Henk Snoek, 1960. RIBA Library Photographs Collection, RIBA61535.



The films are viewable by clicking on a map of Cambridge where they are situated (see *Filmography*). Together with the map of the photographs (Figure 16) they constitute a set of ‘modernist walks’, thus finally filling the modern movement void in Smithson’s own walking maps of 1976. Each film is the product of an experiment to explore the spatial characteristics of buildings through a narrative device - hide and seek, lost and found etc. - in an attempt to reveal new configurations and novel spatial characteristics pertaining to modern architecture.

The films are short, on average three minutes, and unlike the *Cambridge in Concrete* photographs they rely on actors to inhabit the spatial construct as an expression of human narratives. Although separated by some thirty years, the films and the photographs admirably complement each other. For example *The Cripps Building* movie could be prefaced by Henk Snoek's photograph (Figure 10), acting as an establishing shot to a movie that essentially takes place inside the building. And since the key difference between the movies and the photographs is the human presence, the *Cambridge in Concrete* photographs are in effect ageless. The buildings have changed very little if at all, therefore the way they have been set up and framed guarantees a perpetual form of self-preservation. By contrast, the movies are firmly dated by the actors' clothes and haircuts and will soon belong to a bygone age. The CUMIS films invariably show what's beyond the photographic frame; lawns, trees, bridges, gates, corridors, stairs, people. They do not describe the life of people, but just a tiny portion of life, in fact what's in between people - space, the sound of space - leaving plenty of space to space. The movies fleetingly record a fraction of the world duration by revealing a fragment of its everydayness, which as we know, is the hardest thing to uncover. It's the fragility of that moment that is so interesting to contrast with the grand immobility of the Cambridge photographs.

Figure 12. Denys Lasdun, New Court, Christ's College; photograph: Richard Einzig, 1970. RIBA Library Photographs Collection, RIBA70600.



3. The Necessary Image

Retracing our steps to the present day, we should ask ourselves the question, paraphrasing Mitchell, of what those pictures want to tell us, and what do they tell us in fact? (Mitchell, 2005). Rancière argues that the image is ‘a vehicle for a silent discourse which we endeavour to translate into sentences [...] the image speaks to us precisely when it is silent, when it no longer transmits any message to us’. He then makes the further distinction between ‘the image as raw, material presence and the image as discourse encoding a history’ (Rancière, 2007: 11).

We have so far discussed the ‘raw’ image in its abstract and aesthetic state. But what about the encoded historical discourse? Every one of those photographs is an agent, product and source of history within a given cultural, political and social context. They represent, at the same time, the built and visual effort of the architects to impose modernity on the planning history of Cambridge. The signals become ‘louder’ when considering, for example, the photographs of the History Faculty building, where we can speak in detail of the ‘encoded discourse’, because we know the public and archival history of the images. On the one hand there are the published, eye-catching images of the journal articles, particularly the *Architectural Review*, in the issue of November 1968. The article embeds a sort of ‘lobby for the modern’: behind the scenes Martin, on the stage Banham, Stirling, Einzig and the editorial team of the most influential British architectural journal. Text, images and layout work in praise of the Modern (Banham, 1968: 328–341). The photographs shot by Einzig either speak in dialogue with the small and large axonometric views (and with the technical detailing), or are a frontal, plain tribute to the massive glass façade, represented in internal or external views, often rotated on the page so as to exploit the rectangular format of the photograph at its best.

On the other hand the archival history: in the *Cambridge in Concrete* exhibition we chose to display the images shot by John Donat, because they were less known and, as Claire Zimmerman highlighted, they are significant, clear evidence of Stirling’s perseverance in imposing his modern language. A photographer himself, indeed, Stirling paid scrupulous attention to the published images of his work (Zimmerman, 2012: 112, 114).

His sensitivity to and knowledge about images did not exist in inverse relation to his skills as an architect; these were, rather, an integral part thereof. James Stirling’s photographic files on the Cambridge History Faculty Library are housed at the Canadian Centre for Architecture (CCA). They include images by an impressive array of photographers, including Richard Einzig, Yukio Futagawa, Norman McGrath, Ezra Stoller, Alessandro Vasella and Colin Westwood. Einzig and McGrath separately photographed the architect inside the roof trusses of the building on two different occasions; Stirling himself, it appears, took pictures of Reyner Banham, camera-laden, in the metallic forest of the History Faculty roof. In addition to these, though, the British photographer John Donat (1933–2004) took a set of compelling images of the newly finished building in 1968. The CCA files include prints annotated by Stirling. ‘Most important shot’, ‘note Casson building not appearing to left of History’, and ‘more blinds should be lowered on front elevation if possible’ appear on the CCA prints.

Figure 13-14. James Stirling, History Faculty; photography: John Donat, 1968. RIBA Library Photographs Collection, RIBA64443, RIBA64454.



To the reader with the patience to retrieve from the library shelves that November 1968 issue of the *Architectural Review*, the comparison between the images of Einzig and Donat will clearly show the similar, obsequious aim of the two sets. In some cases the photographs are substantially identical, like Einzig's internal worm's eye view of the glazed façade, which opens Banham's *AR* article and is shot by Donat too (Figure 15). In these images of the History Faculty, Einzig seems to have lost his compelling characteristic, the strong tonal contrast - clearly recognisable, for example, in his photograph for Christ's (Figure 12) - in favour of a direct narrative of the building's features.

At the start of this article we mentioned that the meaning of the photographs may have changed over time - and that the way they were understood and interpreted in the 1960s might have been different to how we have appraised them in our catalogue, in our exhibition and in this text.

Figure 15. James Stirling, History Faculty; photography: John Donat, 1968. RIBA Library Photographs Collection, RIBA64447.



The passage of time may be one factor, but there are many possible reasons for this potential change in interpretation. As pointed out by Becker ‘An image that contains so much detail will always support more than one interpretation [...] which raises this question: since this division of labour leaves the interpretation to users, how will those users know what’s important, what the idea is, what the photographer had in mind, what they are “supposed to get out of this picture”? How can photographers arrange the pictures so that what they had in mind will shape the interpretations of the people who see their work?’ Becker goes on to raise many crucial issues of interpretations, transformations, selections, arrangement and translation (Becker, 2007: 37): he believes that photography is a potent form of visual sociology, telling us about various aspects of the societies it portrays. Becker pays great attention to photograph’s captions, in books, magazines and newspapers: ‘Ordinarily, a caption tells us what’s important, points out what we should attend to, tells us what we can ignore, indicates the connections that link the objects and people in the picture (Becker, 2007: 37). In our catalogue and exhibition we followed a classic ‘scientific narrative’ common to museum collections such as the following caption:

History Faculty - Architect: James Stirling

Photography: John Donat, 1968

Credit: John Donat / RIBA Library Photographs Collection

Archive: RIBA 64443, 64445, 64447, 64450, 64454.

We are strictly sticking to the facts. Banham’s article on the Stirling building provided a rather long caption for a similar illustration (Banham 1968: 329).

Opposite: the vertical view into the apex of the reading room of the History Faculty brings together the essentials of the design: the ventilating fans of the roof as environmental system, and the access galleries to the two teaching rooms that form the two arms of the plan enclosing the library.

In this case the caption style could be described as ‘pseudo scientific rhetoric’. It’s asking the reader to consider a highly abstract image, looking upwards, while at the same time talking about the ‘the two arms of the plan’ thus requiring from the reader an expert ability at mental rotation to make sense of it - a vertigo inducing exercise that probably only architects can manage. Of course not all captions are of that ilk but curiously in this seminal article, Banham never once mentions the photographs accompanying his text. It is as if they have a life of their own, accompanied by somewhat puzzling captions. One suspects that in this case the journal editor commissioned the photographer and wrote the captions. Banham’s text referring to the roof is all the more humorous for being in his own prose: ‘the three ventilating fans, painted in strong farm-tractor primary colours, nestling like newly landed agricultural space-satellites in the peak of the roof’. So in this case there are different voices layered over the same article. Potentially this makes it even harder for the reader to work out how to read the photographs.

But let’s consider another example, one of Picton’s 1979 articles on architectural photography, already cited. In this case he uses previously published photographs, refers to them in the text but

makes rather acerbic comments in the captions - for example 'Cripps building in Cambridge: bow down and adore' (Picton, 1979a: 176). This is a direct criticism of the photography and the architecture it contains. It dramatically affects the way the photograph will be appraised by a reader. And since it was previously published we can only conclude that the same image could be the subject of several different interpretations occurring over time.

Indeed it is possible to trace the life of a photograph; it might be first published in a magazine to cover a recent building - the History Faculty example - it then may re-appear a few years later - say in the Picton article - it might next figure in a book about architectural photography - for example by Elwall - and half a century later it might also be part of an exhibition - such as *Cambridge in Concrete* and be commented upon in a catalogue. And at every step, as time progresses, new interpretations and novel transformations may or may not occur. Partly because of the way it is presented, a photograph in a magazine and the same photograph in an exhibition have a very different meaning - but mainly because the fate of a photograph is no longer in the hands of its maker. It is in the hands of later readers who will decide how to incorporate it - or not - into a new body of knowledge, thus constantly reinventing and interpreting a 'reality' out of what the photographer originally intended.

One such possible interpretation concerns our perception of modernism that has been altered after the 1966 publication of Venturi's *Complexity and Contradiction in Architecture* - as alluded by Ray in our catalogue (Ray, 2012: 32). All the more relevant here if we consider that Venturi's interest 'for messy vitality over obvious unity' has been partly aroused by new photography, Edward Ruscha's in particular, capturing the banal, the common and the everyday environment. But it took a while for it all to sink in. The Cambridge photographs could therefore be construed to be standing at the edge of a new era - or at the end of previous one - because of the form and the content, the style of photography and the iconic buildings that they portray.

The efforts made by the actors at Cambridge in their time, for the public acceptance of the Modern, were unsuccessful. Many colleges, as well as part of the University, are not particularly enamoured with their recent heritage and these buildings suffer from a constant threat of minor visual erosions, the sum of which may unbalance their original integrity. The challenge to today's architects is to restore them, finding a way that balances the issues of conservation and the technical solutions required to improve their performance. When they were built they represented the architectural avant-garde with a high level of innovation, particularly in the creation of new technical solutions.

As architectures they stand sober, largely unperturbed by the hordes of tourists trundling through the Cambridge historic centre: perhaps, Peter Smithson did the modern heritage of Cambridge a favour by omitting them from his map. As a collection, the photographs talk of the knitting of the Modern Movement into the fabric of the old city. But, in terms of identity, the value of the images as a whole is much greater than the sum of the individual buildings: they become visible; they hold hands, they are linked across a new map of Cambridge (Figure 16).



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Modern Cambridge

1956-1972

1. Castle Hill Lodge, Clare Hall College, 1958
David Roberts and Geoffrey Clarke
2. Department of Architecture Extension, 1959
Colin St John Wilson
3. Erasmus Building, Queen's College, 1960
Basil Spence
4. Garret Hostel Bridge, 1960
Timothy Guy Morgan
5. The Raised Faculty Building, Sidgwick Site, 1961
Casson, Conder & Partners
6. Harvey Court, Gonville & Caius College, 1962
Leslie Martin, Patrick Hodgkinson and Colin St John Wilson
7. Fitzwilliam College, 1963
Denys Lasdun
8. Lady Mitchell Hall, 1964
Casson, Conder & Partners
9. William Stone Building, Peterhouse College, 1964
Leslie Martin and Colin St John Wilson
10. Leckhampton House, Corpus Christi College, 1964
Philip Dowson, Arup Associates
11. North Court, Jesus College, 1965
David Roberts and Geoffrey Clarke
12. Churchill College, 1966
Richard Sheppard Robson & Partners
13. New Hall [since 2008 Murray Edwards College], 1966
Chamberlin, Powell & Bon
14. South Court, Emmanuel College, 1966
Tom Hancock
15. The Cripps Building, St John's College, 1967
Powell & Moya
16. The Keynes Building, King's College, 1967
Fello Atkinson
17. The University Centre, Granta Place, 1967
Howell, Killick, Partridge & Amis
18. History Faculty Building, 1968
James Stirling and James Gowan
19. New Museums Site, 1968
Philip Dowson, Arup Associates
20. Blundell Court, Sydney Sussex College, 1969
Howell, Killick, Partridge & Amis
21. Clare Hall College, 1969
Ralph Erskine
22. Senior Combination Room, Downing College, 1969
Howell, Killick, Partridge & Amis
23. Cosin Court, Peterhouse College, 1970
David Roberts and Geoffrey Clarke
24. Kettle's Yard Extension, 1970
Leslie Martin with David Owers
25. New Court, Christ's College, 1970
Denys Lasdun
26. Darwin College, 1970
Howell, Killick, Partridge & Amis
27. Wolfson College, 1972
Michael Mennim
28. Wolfson Building, Trinity College, 1972
Architects Co-Partnership

References

1. Antonioni, Michelangelo, *The Architecture of Vision: Writings & Interviews on Cinema*, ed. Marga Cottino-Jones (New York: Marsilio Publishers, 1996)
2. Banham, Reyner, 'The New Brutalism', *Architectural Review*, December 1955, pp. 354-361
3. Banham, Reyner, *The New Brutalism: Ethic or Aesthetic?* (London: Architectural Press, 1966)
4. Banham Reyner, 'History Faculty Cambridge', *Architectural Review*, November 1968, pp. 328-341
5. Bazin, André, 'The Ontology of the Photographic Image', trans. by Hugh Gray, *Film Quarterly*, vol. 13, no. 4, Summer 1960, pp. 4-9
6. Becker, Howard S., *Telling About Society*, (Chicago: University of Chicago Press, 2007)
7. Benjamin, Walter, 'The Work of Art in the Age of Mechanical Reproduction' (1936) in *Illuminations*, ed. Hannah Arendt, trans. Harry Zohn (London: Pimlico, 1999)
8. Berman, Alan (ed.), *Jim Stirling and the Red Trilogy. Three Radical Buildings* (London: Frances Lincoln Limited, 2010)
9. Bullock, Nicholas, 'British Universities on a Rising Tide, 1961-68' in *Cambridge in Concrete. Images from the RIBA British Architectural Library Photographs Collection*, eds. Marco Iuliano and François Penz (Naples and Cambridge: Paparo Edizioni with the Department of Architecture-University of Cambridge, 2012), pp. 25-29
10. Campbell, Louise, 'Building on the Backs: Basil Spence, Queen's College, and University Architecture at Mid-Century', *Architectural History*, no. 54, 2011, pp. 383-405
11. Carolin, Peter (2012a), 'The Martin Era 1956-72' in *Cambridge in Concrete. Images from the RIBA British Architectural Library Photographs Collection*, eds. Marco Iuliano and François Penz (Naples and Cambridge: Paparo Edizioni with the Department of Architecture-University of Cambridge, 2012), pp. 19-23
12. Carolin, Peter (2012b), 'School of Architecture Extension' in *Cambridge in Concrete. Images from the RIBA British Architectural Library Photographs Collection*, eds. Marco Iuliano and François Penz (Naples and Cambridge: Paparo Edizioni with the Department of Architecture-University of Cambridge, 2012), pp. 46-48
13. Dimendberg, Edward, *Film noir and the Spaces of Modernity* (Cambridge Mass.: Harvard University Press, 2004)
14. Elwall, Robert, *Building a better Tomorrow. Architecture in Britain in the 1950s* (London: Wiley-Academy, 2000)
15. Elwall, Robert, *Image and experience: the photography of John Donat* (London: RIBA, 2007)
16. Fair, Alistair, 'An ideal campus: the Sidgwick Site, Cambridge' in *Twentieth Century Architecture*, vol. 11, Oxford and Cambridge, 2013, pp. 105-123
17. Games, Stephen (ed.), *Pevsner on Art and Architecture. The Radio Talks* (London: Methuen, 2002)
18. Goldie, Mark, *Corbusier Comes to Cambridge: Post-War Architecture and the Competition to Build Churchill College* (Cambridge: Churchill College, 2007)
19. Goldie, Mark, *Corbusier Comes to Cambridge: Post-War Architecture and the Competition to Build Churchill College* (Cambridge: Churchill College, 2012)

20. Hannay, Patrick, 'No Break Out Insight', *Occupation: Negotiations with Constructed Space*, proceedings of the conference, (Brighton: University of Brighton, 2009), pp. 1-16
21. Harwood, Elain, Powers, Alan and Saumarez-Smith, Otto (eds.), *Twentieth Century Architecture*, vol. 11, Oxford and Cambridge, 2014
22. Iuliano, Marco, 'The Other Cambridge' in *Cambridge in Concrete. Images from the RIBA British Architectural Library Photographs Collection*, eds. Marco Iuliano and François Penz (Naples and Cambridge: Paparo Edizioni with the Department of Architecture-University of Cambridge, 2012), pp. 7-11
23. Johnson, Philip, 'School at Hunstanton, Norfolk', *Architectural Review*, August 1954, pp. 149-162
24. Lefebvre, Henry, *The Production of Space* (Oxford: Blackwell, 1991)
25. de Maré, Eric, *Photography and Architecture* (London: Architectural Press, 1961)
26. Martin, Leslie, 'The Collegiate Plan', *Architectural Review*, July 1959, pp. 42-48
27. Martin, Leslie, *Building and Ideas 1933-83: from the Studio of Leslie Martin and his Associates* (Cambridge: Cambridge University Press, 1983)
28. Mattens, Filip, 'The Aesthetics of Space: Modern Architecture and Photography', *The Journal of Aesthetics and Art Criticism*, Winter 2011, vol. 69, no. 1, pp. 105-114
29. Mitchell, William J. Thomas, *What do pictures want? The lives and loves of images* (Chicago: University of Chicago Press, 2005)
30. Penz, François (2012a), 'The Absence of Presence' in in *Cambridge in Concrete. Images from the RIBA British Architectural Library Photographs Collection*, eds. Marco Iuliano and François Penz (Naples and Cambridge: Paparo Edizioni with the Department of Architecture-University of Cambridge, 2012), pp. 37-43
31. Penz, François (2012b), 'Cinematics in Architectural Practice and Culture', in *Prospects 100 years Research + Practice*, eds. Ranald Lawrence and Daniel Godoy-Shimizu (Cambridge: University of Cambridge Department of Architecture, 2012) pp. 45-53
32. Pevsner, Nikolaus, *The Buildings of England: Cambridgeshire*, (Harmondsworth: Penguin Books, 1954)
33. Pevsner, Nikolaus, *The Buildings of England: Cambridgeshire*, 2nd edition, (Harmondsworth: Penguin Books, 1970)
34. Picton, Tom (1979a), 'The Craven Image - or the apotheosis of the architectural photograph' (Part One), *Architects' Journal*, 25 July 1979, pp. 175-190
35. Picton, Tom (1979b), 'The Craven Image - or the apotheosis of the architectural photograph' (Part Two), *Architects' Journal*, 2 August 1979, pp. 225-242
36. Rancière, Jacques, *The Future of the Image* (London: Verso, 2007)
37. Ray, Nicholas, 'The Cambridge History Faculty Building. A case study in ethical dilemmas in the 20th century', in *Architecture and its ethical dilemmas*, ed. Nicholas Ray (London: Routledge, 2005), pp. 23-34
38. Ray, Nicholas, 'Architecture for an Anxious Age: Cambridge 1970-2000', in *Cambridge in Concrete. Images from the RIBA British Architectural Library Photographs Collection*, eds. Marco Iuliano and François Penz (Naples and Cambridge: Paparo Edizioni with the Department of Architecture-University of Cambridge, 2012), pp. 31-35
39. Rowe, Colin, 'Sidgwick Avenue', *The Cambridge Review*, 8 October 1960, pp. 2-5

40. Rowe, Colin, *As I was Saying: recollections and miscellaneous essays*, vol. 1, Texas, pre-Texas, Cambridge, ed. Alexander Caragone (Cambridge Mass.: MIT Press, 1996)
41. Sharr, Adam and Thornton, Stephen, *Demolishing Whitehall: Leslie Martin, Harold Wilson and the Architecture of White Heat* (Farnham: Ashgate, 2013)
42. Smithson, Peter, 'Preparing the mind and three guided walks', *Architectural Design*, vol. 46, no. 6, 1976 June, pp. 343, 346-354
43. Taylor, Nicholas, *Cambridge New Architecture: a guide to the post-war building* (Cambridge: Trinity Hall, 1964)
44. Taylor, Nicholas, *Cambridge New Architecture: a guide to the post-war building* (Cambridge: Trinity Hall, 1965)
45. Taylor, Nicholas and Booth, Philip, *Cambridge New Architecture* (London: Leonard Hill, 1970)
46. Taylor, Nicholas and Booth, Philip, *A Guide to Cambridge new architecture: three walks from the market place* (London: Leonard Hill, 1972)
47. Venturi, Robert, *Complexity and Contradiction in Architecture*, (New York: Museum of Modern Art with the Graham Foundation for Advanced Studies in the Fine Arts, 1966)
48. Watkin, David, *Morality and architecture: the development of a theme in architectural history and theory from the Gothic revival to the modern movement* (Oxford: Clarendon Press, 1977)
49. Watkin, David, 'Il Rinascimento Urbano, un'opinione da Cambridge', in *Il Rinascimento Urbano. La città nel Terzo Millennio*, ed. Gabriele Tagliaventi (Milano: Teleura, 2000), pp. 35-51
50. Wilk, Christopher, *Modernism: Designing a New World* (London, V&A Publications, 2006)
51. Zimmerman, Claire, 'History Faculty', in *Cambridge in Concrete. Images from the RIBA British Architectural Library Photographs Collection*, eds. Marco Iuliano and François Penz (Naples and Cambridge: Paparo Edizioni with the Department of Architecture-University of Cambridge, 2012), pp. 112-114
52. Zimmerman, Claire, 'Photographic Images from Chicago to Hunstanton', in *Neo-Avant Garde and Post-Modern. Postwar Architecture in Britain and Beyond*, eds. Claire Zimmerman and Mark Crinson (New Haven: Yale, 2010), pp. 203-228

Web

Cambridge in Concrete: the boom years of Brutalism (2012)

<http://www.cam.ac.uk/research/news/cambridge-in-concrete-the-boom-years-of-brutalism>

Filmography

Architecture as Monument: The Building of Churchill College (1964)

<http://churchillcollege.tumblr.com/post/44809005022/>

Cambridge Movies in Concrete (2011)

<http://www.expressivespace.org/CMC/tours-index.html>

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